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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,628	07/30/2003	Jerry Nelson		9128

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EXAMINER

CHORBAJI, MONZER R

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,628

Applicant(s)

NELSON ET AL.

Examiner

MONZER R. CHORBAJI

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-12 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-12 and 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

This general action is in response to the application filing date of 07/30/2003

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 10 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 10, line 2, applicant uses the term "ozone enriched air". It is not clear how can the air be ozone enriched when it passes through the germicidal lamp, which functions to remove ozone? Clarification is needed to understand the meaning of claim 10. The same applies to claim 24.

In claim 10, lines 8-9, applicant uses the term "from within the air stream". Explanation of "within" is needed to understand the meaning of claim 10. The specification does not explain "within the air stream". The same applies to claim 24.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 10-12 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cornwell (U.S.P.N. 5,221,520) in view of Hirai et al (U.S.P.N. 4,990,311)

With respect to claims 10 and 24, the Cornwell reference discloses a method (col.8, lines 4568 and col.9, lines 1-20) and an apparatus (figure 1, 10) for removing contaminants from contaminated air stream received from a surrounding environment to produce purified air (abstract, lines 1-16) by having a replaceable cartridge (figure 1, the filters along with the blower 14 constitute the cartridge such that any filter in the

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cartridge is replaceable along with the blower) that includes the following: disposing the cartridge within a surrounding environment (in figure 1, the cartridge receives contaminated air through diffusion plate 21, which is equivalent to an air intake for receiving an air stream into the cartridge from the surrounding environment), an ozone chamber (figure 1, 20 and col.7, lines 37-40) with an ozone generating radiation source for irradiating the air stream, an ozone distribution means for delaying the air stream by increasing its residence time (figure 1, 22 and col.8, lines 13-18), an ozone removing chamber for destroying any residual ozone (figure 1, filter 26), an exhaust to return the air stream from the ozone removing chamber to the surrounding environment (external surface of the last filter in figure 1), a connector for connecting the cartridge to a power source (the cartridge must intrinsically be connected to an electrical power outlet in order for the fan to operate) and periodically replacing the cartridge within the surrounding environment (col.8, lines 44-51). With respect to claims 10 and 24, the Cornwell reference fails to disclose irradiating the air stream received from the ozone chamber with a germicidal radiation source; however, the Hirai reference, which is in the art of deodorizing air, teaches that the air stream received from the ozone chamber is irradiated with a germicidal radiation source (figure 2, 20 and 30) in combination with an ozone decomposing catalyst layer (figure 2, 18). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Cornwell reference by substituting a filter means for decomposing residual ozone with an ultraviolet lamp as taught by the Hirai reference since the an ozone-decomposing

ultraviolet lamp produces nascent oxygen that highly oxidizes and decomposes malodorous substances (col.2, lines 49-52 and col.3, lines 30-33).

With respect to claims 11 and 25, the Cornwell reference teaches the following; disposing a base in the surrounding environment having airflow control means (openings in base 12 in figure 1) for directing air through the system (in figure 1, the cartridge receives contaminated air through diffusion plate 21, which is connected to base 12), a power source for interfacing with the connector in order to provide power to the system (the cartridge must intrinsically be connected to an electrical power outlet in order for the fan to operate), directing the air stream through the system via the air flow control means (openings in base 12 in figure 1) and a replaceable cartridge (figure 1, the filters along with the blower 14 constitute the cartridge such that any filter in the cartridge is replaceable along with the blower) in a removable attachment with the base by removably replacing the filters (col.8, lines 44-51).

With respect to claims 12 and 26, the Cornwell reference fails to explicitly teach disposing an end-cap at an end of the ozone-generating source in order to maintain the ozone-generating source away from walls of the cartridge. With respect to claims 12 and 26, the Hirai reference teaches disposing an end-cap at an end of the ozone-generating source (figure 5, unlabeled end part of UV lamp 22 outside chamber 73). The unlabeled end-cap of the UV lamp portion that is outside chamber 73 in figure 5 is needed in order to anchor and hold UV lamp 22 in the ceiling of chamber 73 and to further maintain the UV lamp from walls of chamber. See also; figure 2 where UV lamp 20 is maintained away from the inner walls of apparatus 10. As a result, it would have

been obvious to one having ordinary skill in the art at the time the invention was made to modify the Cornwell reference by including end-caps for the ozone UV lamp as taught by the Hirai reference in order to maintain the ozone UV lamp in an orientation perpendicular to the flow of the air stream (col.2, lines 63-68).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Bohnensieker reference (U.S.P.N. 4,118,191), the Arthurson reference (U.S.P.N. 5,223,105) and the Cicirello reference (U.S.P.N. 3,576,593) teach other similar systems and methods for removing contaminants from a contaminated air.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R. CHORBAJI whose telephone number is (571) 272-1271. The examiner can normally be reached on M-F 6:30-3:00.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN KIM can be reached on (571) 272-1142. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Monzer R. Chorbaji *MRC*
Patent Examiner
AU 1744
04/27/2005

John Kim
JOHN KIM
SUPERVISORY PATENT EXAMINER